TUMOR OF THE PITUITARY BODY*.

ABSTRACT.

A paper with this title was read by Dr. G. L. Walton, in conjunction with Dr. Cheney, of Boston.

Tumors of this region have acquired a new interest since the demonstration of acromegaly by Marie. Few authorities now deny that a relation exists between disease of the pituitary gland and acromegaly, though arguments are still adduced to show that the diseased gland represents a result rather than the cause of the general perversion of function.

The interest in these cases is now three-fold: (1) in their bearing upon the anatomy of the chiasm and optic tract; (2) in their symptomatology as bearing upon early diagnosis, and (3) in their pathology, more particularly with reference to the destruction of glandular function.

(1) The optic chiasm is the first important body affected by the pressure. The tumor may extend upwards, either in front of the chiasm or behind it, or both, causing amblyopia and various forms of field restriction. Both temporal fields are often lost; sometimes one eye is completely blind while the other shows loss of temporal field, and in Leszynsky's case, as in ours, one temporal field alone was affected at a certain stage. Homonymous hemianopsia is sometimes found (as in our case at a later stage) showing pressure on the optic tract behind the chiasm. (2) The symptoms, apart from the function of the gland itself, are headache, visual field affection, optic atrophy, vertigo, disturbance of motion, spastic and paretic (pressure on the crura cerebri), disturbance of speech, disordered pupils, paralysis of ocular muscles, and diabetes (mellitus and insipidus). To these symptoms must be added those of acromegaly, symptoms less marked when the disorder appears in adult life. Pechkranz has suggested that acromegalic symptoms dating from childhood may be due to congenital anomalous structure of the pituitary body. (3) The commonest form of new growth partakes of the nature of adenoma. In some cases

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* Read at the twenty-fifth annual meeting of the American Neurological Association, June 14 and 15 1899.

the diagnosis between adenoma and sarcoma is difficult. Hippel asserts that all these growths start from the anterior lobe. Burr and Riesman argue that the lack of acromegaly in certain cases of tumor of the hypophysis points to the retention of a certain amount of healthy gland tissue.

CASE.

A physician, 26 years of age, first consulted Dr. Cheney, July 20, 1895, for migraine dating from early life, with temporal hemianopsia—a large man with rather heavy gait, large extremities and features, including broad nose and very thick lips, large tongue, large jaws with separation of teeth. He complained of asthenopia. The vision in the right eye was .7; left, normal. Fundus examination negative. Headaches became more frequent, and permanent temporal hemianopsia appeared in the left eye. Optic atrophy ensued. In May, 1896, the vision in the right eye was reduced to .2, in the left eye to .5. The field for form and color in the right eye was unaffected. Somnolence and mental apathy appeared and increased, though he was still able to practise. In January, 1897, Dr. Derby saw the case. At this time the nasal field of the right eye had disappeared (homonymous hemianopsia). In September of 1897 there was general physical weakness, and at this time color sense was absent in the otherwise normal temporal field of the right eye. His speech was slow. The first of October he gave up work. The headaches were becoming more frequent, somnolence and apathy increasing. Lack of sexual power was complained of throughout the history of the case. Patient died in December, 1897.

PATHOLOGICAL EXAMINATION BY DR. MALLORY.

Tumor 2.7 cm. by 3.5 cm. by 3 cm., causing the disappearance of the olivary process and portions of the sella turcica. Growth soft and granular, dark gray in color, with soft translucent light grayish masses resembling cartilage, but softer (colloid). Soft septa extended into the growth from the fibrous capsule. Growth consists mainly of delicate blood vessels surrounded by walls of round cells generally epithelioid in type, the darker areas due to hemorrhage. Along one of the septa extend narrow compressed tubules, some of the cells of which tend to take eosin stain like those of the normal pituitary gland after fixation in Zenker's fluid, some of these tubules dilated and containing colloid material.

Diagnosis: *Perithelial angiosarcoma* (endothelioma).

The order of optic symptoms points to involvement of the right optic tract at its junction with the chiasm, the lesion extending to involve the whole optic tract so as to produce finally hemianopsia. The amblyopia points to affection of the macular fibers. The achromatopsia shows that color-sense may be impaired by peripheral as well as by central lesion. The writers are strongly inclined to think that the peculiarities in growth (large features, etc.), though not sufficiently marked to be deemed abnormal, pointed to the congenital defect of the gland structure forming the basis of the new growth which appeared later in life. The lack of added symptoms of acromegaly was partly due to the patient having reached adult life, and partly to the preservation of an area of comparatively healthy gland tissue.

CONCLUSIONS.

1. Congenital peculiarities in growth resembling those of acromegaly, but occurring in otherwise healthy individuals, may point to structural defect of the pituitary gland, a defect sometimes furnishing the starting point for new growth later in life.

2. The occurrence of pituitary tumor without definite symptoms of acromegaly does not necessarily disprove a connection between this organ and this disease, for the persistence of even a small amount of healthy gland tissue is sufficient to carry on fairly the function of the pituitary body.

3. The combination of general symptoms of new growth with optic atrophy and loss of temporal field of vision makes the diagnosis of pituitary tumor almost certain.

4. Hemiachromatopsia is not necessarily of central origin.

DISCUSSION.

Dr. W. G. Spiller thought that the intense degeneration of nerve fibers in the medulla oblongata, without secondary ascending or descending degeneration, in Dr. Dercum's case was worthy of comment. The nerve fibers had not been cut, and the degeneration was evidently caused by the pressure of the tumor. He was not aware that such a condition had often been seen in cases of tumor of the central nervous system, and he regarded it as similar to that in the periaxillary neuritis of Gombault. It seemed probable that the axis cylinders had not been seriously injured and that the degeneration was limited to the medullary sheaths. Secondary degeneration would probably have occurred if the patient had lived longer.

Dr. Langdon said, in regard to the case reported by Dr. Dercum and the relation of the growth to the impairment of the stereognostic sense, that it seemed to him that this sense was formed by the fusing of a great many sensations. One of these fused elements was probably in his opinion the labyrinthine sense which gives us knowledge of our general position in space, and there was no reason why, in his estimation, it should not give us an idea of the position of the separate *parts* of our bodies in space. The location of the lesion was significant in Dr. Dercum's case, as it involved the labyrinthine fibers of the oblongata, and it would have been of interest to test the functions of the internal ear in such a case.

Dr. Dercum replied that the ears of his patient had been examined. She had no abnormality of hearing, no vertigo, and there was nothing to suggest the involvement of the fibers coming from the labyrinth.

Dr. Walton said that in illustration of the general lack of appreciation of the fundamental symptoms accompanying pituitary tumors, he had noticed recently the abstract of a case presented to the Ophthalmological Congress of Paris as one of meningitis or new growth of unknown seat and character, except that it involved the chiasm. The patient was a woman of fifty-eight years, with bitemporal loss of the visual fields, optic atrophy, loss of vision to one-third and one-half of normal, headache and somnolence. This case, if correctly reported, presented therefore, the essential diagnostic features of tumor of the pituitary body.